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Pulled para for header	
Headline	Is this a simulation? Structuralism and Carnap
Subhead	<i>David Chalmers has been claiming there's chance this is a simulation We asked him, Michaela McSweeney and Darren Bradley what we should make of such claims.</i>
Author credit	Graeme A Forbes, Lecturer in Philosophy, University of Kent
Possible Photos	<a href="https://www.dreamstime.com/stock-photo-woman-vr-headset-looking-up-trying-to-touch-objects-virtual-reality-computer-technology-simulates-image70142438">https://www.dreamstime.com/stock-photo-woman-vr-headset-looking-up-trying-to-touch-objects-virtual-reality-computer-technology-simulates-image70142438</a>  <a href="https://www.dreamstime.com/stock-image-digital-eye-image10517371">https://www.dreamstime.com/stock-image-digital-eye-image10517371</a>  [Suggested illustration: David Chalmers reading a railway map of Europe/tube map]
Captions/credit	
Possible pulled quotes	<ol style="list-style-type: none"> <li>1. what is happening lately, he says, is support for the hypothesis that we are living in a computer simulation and that something has recently gone haywire within it.</li> <li>2. the thing that really constitutes reality – that entity is the structure. And I have no idea what that means.</li> </ol>
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Is all this – everything you see, everything you feel, everything you hear – a computer simulation? Adam Gopnik, in the [\*New Yorker\*](#), considers this response to the mix-up in the best picture announcement at the Academy Awards back in February. Gopnik takes his inspiration from Australian philosopher David Chalmers, University Professor of Philosophy at New York University:

“what is happening lately, he says, is support for the hypothesis that we are living in a computer simulation and that something has recently gone haywire within it.

The people or machines or aliens who are supposed to be running our lives are having some kind of breakdown. There’s a glitch, and we are in it.”

Chalmers was joking. But he has said ‘there’s maybe a 20% chance we’re in a simulation’. He reports getting inquiries from BBC *Newsnight*, and the *Daily Mail* to talk about ‘how he thinks we’re living in a simulation’. (They turn him down when it turns out he isn’t extreme enough; he only thinks there is *a chance* we are in a simulation).

So, why does he think this? And, if the world is the sort of world that could be a simulation, what does this say about Chalmers’ views about what reality is? Chalmers is a ‘neo-Carnapian’, taking his inspiration from the early 20<sup>th</sup> Century work of Rudolph Carnap. But Carnap is probably most famous for his view that metaphysical problems are just ‘pseudo-problems’ – i.e. not really problems at all. Carnap thought that the sort of sceptical scenarios that philosophers often discuss were meaningless. So how does a neo-Carnapian like Chalmers make such claims? *The Philosophers’ Magazine* tracked Chalmers down, to ask him. But Chalmers isn’t the only neo-Carnapian around, so we enlisted Darren Bradley, Lecturer in Philosophy at the University of Leeds, and Michaela McSweeney, Assistant Professor of Philosophy at Boston University, to help us understand why a well-respected philosopher like Chalmers makes these striking claims.

Chalmers starts by explaining the motivation for ‘the simulation hypothesis’: “We can create simulations. We in principle have the technology.” Chalmers thinks that as the technology improves we can get simulated worlds that are much more immersive, until they are just like non-simulated worlds. “The moment you realise that’s a possibility, it then becomes natural to at least ask ‘are we in a situation like that? It looks like an empirical possibility.”

What would Carnap say about this? Chalmers says “What you make of these weird possibilities – like whether you’re a simulation or a brain in a vat, or Descartes’ idea that we’re being fooled by an evil demon – turns out to depend on a lot of complicated views about what you think about the relationship between the mind, and language, and the world... Carnap had moments, at least, when he was sympathetic to a kind of phenomenalism where he said ‘whenever we make claims

about the external world they are basically semantically equivalent to claims about our own experiences. So if our experiences are a certain way then it basically follows that the external world is a certain way.”

Bradley agrees that Carnap wouldn’t be able to make sense of the question ‘is this a simulation?’ because of his views about what is required for something to be meaningful. Bradley, McSweeney, and Chalmers would all agree that this isn’t the bit of Carnap’s philosophy to be inspired by. This ‘verificationist’ view of meaning is, Chalmers observes, “not so popular any more”. But one of the most important philosophers to be inspired by Carnap, Hilary Putnam, thought that we could still use a theory of meaning to help us respond to sceptical possibilities. Putnam defended ‘semantic externalism’, the view that “meanings just ain’t in the head”. Putnam claimed that the meanings of words depend on what sort of environment we’re connected to. If we say ‘water’ when we’re causally connected in the right way to some H<sub>2</sub>O, we mean water, but if we are causally connected to some other chemical substance, we don’t mean water but that other stuff. The nature of the chemical substance we’re connected to plays a role in what we mean when we say ‘water’. So if you buy Putnam’s semantic externalism, you still treat the simulation hypothesis as something we can’t really make sense of. Chalmers puts it this way: “Putnam said ‘maybe if we’re brains in a vat connected to stuff in the computer, we’re just referring to stuff in the computer, and we’re right about that, we’re not getting it wrong’ so we shouldn’t see that as a scenario where we’re fooled.”

If Carnap’s verificationism doesn’t give us a way to dismiss the simulation hypothesis, does Putnam’s semantic externalism? “I’m actually sympathetic with a more intermediate view,” Chalmers continues. His view is inspired by elements of Carnap’s work “though not his verificationism, namely his structuralism.”

“Basically what matters for the truth and reference of a lot of the things we say is the structure of the external world. This goes beyond the world of just experience, and appearances – it puts some constraints on external reality – but is basically just structure. We need the world to have a certain kind structure...”

And I think, if you’ve got that kind of view – that when we make claims about the physical world, we make claims about structure – and then you start thinking about the simulation hypothesis then the thought is ‘all that structure might be just as present in a simulation, as in a non-simulated world. So my own view – bringing this all back to the scepticism point – is that this is not a sceptical hypothesis. If we turn out to be in a simulation, all the structure that we believe in will be present, and therefore we should say ‘yeah there *are* tables, there are chairs, there are bodies,

there are books and so on in our environment, they just are all ultimately realised on a computer.”

Chalmers thinks that there are connections here with Putnam's view, but the real place to look is in Carnap's work. Some works of philosophy acquire nicknames. Alongside Kant's first *Critique*, Hume's *Enquiry*, and Wittgenstein's *Tractatus*, Carnap has the *Aufbau*. The full title of the book in English is *The Logical Structure of The World*, but the nickname comes from its original German title *Der logische Aufbau der Welt*.

Chalmers talks about how important structuralism was for Carnap. “In the *Aufbau* he talked about how what really matters is the structure, and he drew the diagram of all the rail lines of Europe”. Disappointingly, Carnap doesn't include the diagram in the book, but anyone familiar with the iconic London Underground map can picture that. The big idea in Carnap that inspires Chalmers, McSweeney, and Bradley is this structuralism; the idea that the content of our theories is really just the relations between the different things in the structure. So Mornington Crescent is just whichever station is related to Euston, Camden Town, and other stations in the London Underground, in the right way. The relation of stations on a network map in Carnap's railway map analogy stands in for the relations of our thoughts and experiences to the structure that causes them. The view that what really matters is structural relations is one Carnap held onto, even when he gave up verificationism.

So Chalmers' claim that we might be in a simulation is just a claim that the structure that gives rise to our experiences *might* be provided by a computer. The structure would be just the same whether a computer is what provides it, or whether the structure is provided by fundamental physics. Our experience could be provided by a computer, Bradley suggests, but we have some reason to think it isn't:

“There's a lot more evidence that's compatible with us being in a simulation than is compatible with us being in the real world. So if you were an agent in a simulation; you might have technical glitches happening. You might have: Error! New Room Loading... as well as all the real-world hypotheses.”

The fact that we haven't noticed glitches in the software (except, of course, the Academy Awards ceremony) is reason, Bradley says, to believe that this probably isn't a simulation.

McSweeney remains puzzled by the idea that this might be a simulation:

“I have advocated a kind of structuralism before. Every time I try to understand what's going on, it feels very slippery to me. In part I think it's because it depends

on exactly what you mean. So one thing you might mean is: the sort of entity, in a very, very loose sense, that is the thing that really constitutes reality – that entity is the structure. And I have no idea what that means. I have no idea what it means *even when I say it*. Or you might mean something like: there's this abstract concept that needs physical realisation for there to be a reality, but the abstract structure itself is not more fundamental than the physical stuff that's realising it."

Bradley puts it nicely, in a way that Chalmers' accepts more-or-less captures his thinking:

"You could think of it in terms of how nervous people are about the claims they want to make. If people aren't nervous at all they'll say 'we know about all these things about the external world: here's a green object'. Think of people getting more and more nervous, and they get more and more within themselves. The most nervous people say the only things we could know about or talk about are our own experiences. That's about as inner as you can get; I think of structuralism is going one stage out. You might say 'I know that my green experience exists, but I know that also something must be causing the green experience.'"

As a sceptical hypothesis, the idea that this is all a simulation is meant to be less radical than a denial of the external world. It says there is an external world, and we're basically right about its structure, but it leaves open questions about what realises the structure. Not everyone is convinced; McSweeney still has an inclination to say that if all tables are simulated, we would be getting something important wrong about tables.